AMYL-NITRITE, ITS THERAPEUTIC VALUE IN NERVOUS AND MENTAL DISEASES. Dr. Rob. Pick, *Irrenfreund* 2, 1876.

As to the physiological effect of amyl-nitrite, there are three points proven by the experiments: viz., the dilatation of the arteries, especially those of the upper half of the body; the diminution of the arterial pressure, and the acceleration of the heart's action.

The dilatation is not limited to the extra-cranial arteries, but it takes place also in the arteries of the pia mater, as shown in rabbits by Schueller and Schramm. These arteries expand to the threefold caliber after an inhalation of amyl-nitrite.

The effect of amyl-nitrite on men is somewhat varying. A constant symptom is a marked redness of the face, the ears and the conjunctiva. Other symptoms are: a visible pulsation of the carotid arteries; a decrease in the power of the volition over the motor nerves manifested by an unsteady gait, by a muscular relaxation of the arms and by a drooping of the eyelids; an easier and deeper respiration.

The psychological influence of the remedy is manifested in the patient feeling unusually well; persons who are habitually silent and melancholic, become quite hilarious and laugh and talk freely.

These symptoms last but a few minutes and no evil consequences, *i. e.*, dizziness, headache, etc., follow the inhalation of amyl-nitrite unless an impure preparation has been used.

Two theories have been advanced on the action of amyl-nitrite; one opinion is that it directly paralyses the muscle of the arteries, while others hold that primarily it affects the centre of innervation of the arteries and of the heart. The first theory has the most supporters and has, of late, been sustained again by the experiments of Mayer and Friedrich (Ueber einige physiol. Wirkungen des Amyl-nitrits, *Arch. f. experiment. Pathol, and Pharmacol.* v. 1. and 2). The result of their experiments may be summed up as follows : The exceedingly increased frequency of the pulse is due to the diminished, or entirely abolished, influence of the pneumogastric on the heart; the dilatation of the vessels is occasioned by the direct influence of the amyl-nitrite in the blood upon the muscular tunic of the vessels. The respiratory movements become accelerated and deeper; only after a continued inhalation the respiration becomes slow and superficial without though being irregular. If large doses are inhaled tetanic convulsions like those of a strychnia-intoxication, occur.

As a therapeutic agent amyl-nitrite has been successfully employed in all those nervous affections which are essentially caused by a spasm of the muscles of the arteries, or by an excessive arterial pressure.

Hemicrania with pulsating, hard, temporal arteries, and paleness of the face, (symptoms indicative of a spasmodic contraction of the arteries) has been quickly relieved by amyl-nitrite (cases by Berger and Holst.) And a complete recovery from this angio-spastic form of migraine has followed the use of amyl-nitrite in cases reported by Bresgen, Haun, Behrendt, Maurer and others.

In *Epilepsy* a favorable result was obtained from the use of amyl-nitrite if the epileptic convulsions were caused by a cerebral anæmia subsequent to a vascular spasm. If in such cases there is an "aura" the outbreak of the convulsions can almost always, be prevented by the inhalation of amyl-nitrite, and if the attack has begun it can be curtailed by such inhalations (Mitchell, Brown, Kuhlmann, Schroeter, etc.)

For *Angina pectoris* the amyl-nitrite was first recommended by Brunton (Lancet IV., vol. II), and its favorable effect was confirmed by Leishmann (Glasgow Med. Jour., 1869). Sanderson and Anstie (Am. Jour. Med. Ac., 1871) Madden (Practitioner IX.) Schroeter and R. Pick, (1874.)

As to the therapeutic value of amyl-nitrite in *Melancholia* the statements are rather conflicting. Meynert used it on the strength of the theory that this malady was chiefly caused by anæmia of the brain. And several of his cases seem to have been benefited by the amyl-nitrite. But others have not obtained any good result from its use. F. C. H.

THE ACTION OF TARTAR EMETIC. Dr. Angelo Mosso, *Lo Sperimentale*, Dec., 1875, publishes a lengthy paper on the action of tartar emetic, the conclusions of which as abstracted in the *Revue des Science Médicales* are as follows:

I. It is a rather general law that medicines injected into the veins, or under the skin, act more promptly than when given by the stomach. This is not the case with tartar emetic; while a dose of 3 or 4 centigrammes given by the mouth is sure to produce emesis in the dog, an intra-venous injection to produce the same result must be as much as 15—25 centigrammes. The condition of the stomach as to fullness or emptiness, the acid, or neutral condition of the gastric fluids, have no influence on the greater or less emetic action of tartar emetic. The emetic causes vomiting in two different ways, sometimes by exciting the terminal ramifications of the pneumogastrics, sometimes by acting on the nervous centres by the intermediation of a general altered state of the blood; and it is because of this dilution in the mass of the blood that it is necessary to inject into the veins a comparatively large dose in order to cause vomiting. If these views are correct, it is clear that a small dose administered by the mouth to animals whose vagi have been cut, should be ineffectual since in these experimental conditions the medicine can only act by absorption and central irritation. To confirm this induction the author divided the sub-diaphragmatic filaments of two young dogs, and when they had recovered from the operation, he gave each of them 4 centigrammes of tartarized antimony without results. He had to give 8 10 centigrammes to produce slight vomiting. Another corollary to this theory is, that an emetic injected into the veins, in sufficient quantity, ought to act more promptly than when introduced into the stomach. Experiments showed, in fact, that an intra-venous injection of 15—30 centigrammes caused emesis within the first five minutes, while a much longer time was required when it was administered by the mouth.

II. Among the symptoms of tartar emetic poisoning, the cardiac troubles play an important part. The pulse preserves for a time its rhythm and